

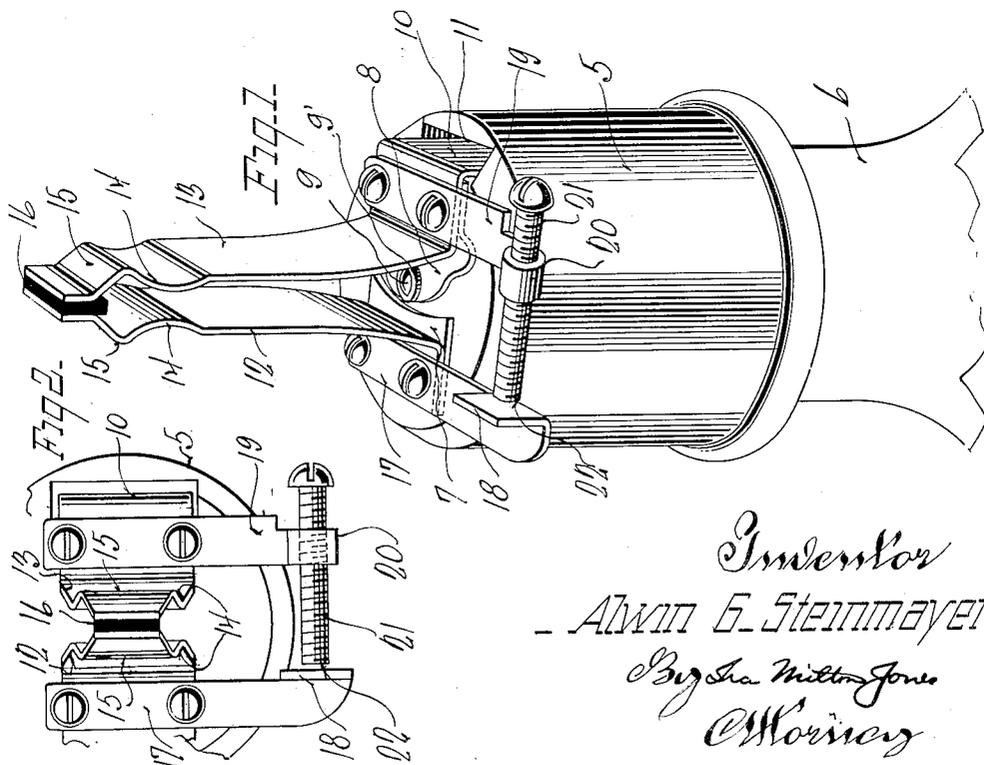
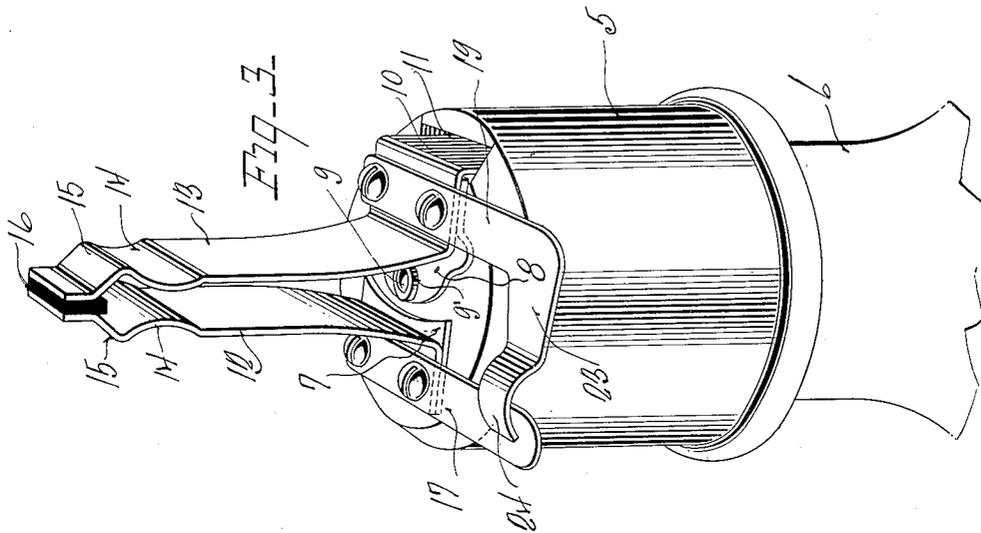
May 9, 1933.

A. G. STEINMAYER

1,908,568

LAMP SOCKET

Filed Sept. 16, 1929



Inventor  
Alvin G. Steinmayer  
By Ira Milton Jones  
Attorney

# UNITED STATES PATENT OFFICE

ALWIN G. STEINMAYER, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO LINE MATERIAL COMPANY, OF SOUTH MILWAUKEE, WISCONSIN, A CORPORATION OF DELAWARE

## LAMP SOCKET

Application filed September 16, 1929. Serial No. 393,039.

This invention relates to certain new and useful improvements in lamp sockets and refers more particularly to street lighting fixture sockets of the series type.

5 Sockets of this type usually have upwardly extending adjacent contact arms known as bayonets, by which they are connected with their receptacles, and heretofore it has been customary to insert a thin film of insulating material between the bayonets, which punctured upon failure of the lamp, to electrical-ly connect the bayonets and maintain the continuity of the circuit; and while the insulating films usually served their purpose they have been objectionable from various stand-10 points, and therefore this invention has as one of its objects to provide novel means for insuring continuity of a series circuit upon failure of a lamp which obviates the necessity of an insulating film.

Another object of this invention resides in the provision of a socket of the character described having means for insuring the continuity of the circuit upon failure of its lamp, which is not destroyed in operation and may be used again after being cleaned.

A more specific object of this invention resides in the provision of a socket of the character described having spaced members to provide a small gap across which the current jumps, upon failure of the lamp, to fuse the metal of the members and thus maintain the continuity of the circuit.

And a further object of this invention resides in the provision of means for readily adjusting the gap and whereby the fused connection across the gap may be readily broken.

With the above and other objects in view which will appear as the description proceeds, my invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims.

In the accompanying drawing, I have illustrated two complete examples of the physical

embodiment of my invention constructed according to the best modes I have so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a perspective view of a series street lighting fixture socket embodying my invention;

Figure 2 is a fragmentary plan view thereof; and

Figure 3 is a perspective view similar to Figure 1 illustrating a slightly modified form of my invention.

Referring now more particularly to the accompanying drawing in which like numerals designate like parts throughout the several views, the numeral 5 represents the body of a series street lighting socket which is formed of insulating material and is adapted to receive an incandescent lamp 6. Inasmuch as the internal construction of the socket forms no part of this invention it has not been shown in detail and description will be directed to only those elements entering directly into the combination.

As is customary in sockets of this type, a pair of terminal plates 7 and 8 are fixed to the upper face of the body, the plate 7 being connected with the center terminal of the incandescent lamp by a flexible conductor, not shown, connected with a plunger 9. The terminal plate 8 has a downwardly extending portion 10 which projects into the interior of the socket through an aperture 11 to engage the usual threaded portion of the lamp, not shown, which comprises its other terminal and the plunger 9 is yieldably urged to engage its upper head 9' with the plate 8 through which it extends, when a lamp is not in the socket, the insertion of the lamp moving the plunger 9 upwardly and breaking the electrical connection its engagement with the plate affords between the terminals 7 and 8.

Extended upwardly from the terminal plates 7 and 8 and electrically connected therewith are bayonet arms 12 and 13, respectively, whose upper ends are provided with inwardly curved portions 14 and outwardly struck ribs 15 to releasably engage the clips of a receptacle, not shown. A block

of insulating material 16 held between the ends of the bayonet arms by their normal spring tension insulates them from each other whereby the terminals of the lamp are connected with the receptacle, not shown, and hence with the source of electrical energy.

As it is essential that continuity of a series circuit be maintained at all times and to insure such continuity in the event of failure of any of the lamps in the circuit, the insulating material 16 between the bayonet arms of each socket has heretofore consisted of a thin film of material which was punctured at approximately 300 to 700 volts to which the current builds up upon failure of the lamp. This method, while insuring continuity of the circuit, had several objections and the present invention contemplates the elimination of the objectionable insulating film by providing a novel means of procuring an air gap across which an arc jumps in the event of failure of the lamp, to fuse the metal of the members forming the gap.

To this end, an arm 17 is extended from the attaching end of the bayonet arm 12 or the plate 7, whose outermost end is provided with an upturned lip 18 and a second arm 19 is similarly fixed to the attaching end of the bayonet arm 13 at the terminal plate 8. The outermost end of the arm 19 is curled or looped, as at 20, and internally threaded to receive a screw 21. The end 22 of the screw is spaced slightly from the up-turned lip 18 of the arm 17, to provide a gap across which the current jumps upon failure of the lamp and the consequent current surge, to slightly fuse the metals of the screw and the lip 18 and thus bridge the terminals 7 and 8 to insure continuity of the circuit independent of the lamp. The arms 17 and 19 may be formed of any suitable metal, but it is desirable that the arm 19, and especially its looped end, have sufficient resiliency to maintain the screw 21 in any desired position of adjustment.

When the lamp fails and the screw end 22 is fused to the lip 18 it is only necessary for a lineman to back the screw out of the looped end, the turning of the screw readily breaking the fused connection and when it has been withdrawn, its end and the face of the lip 18 may be easily refinished with a file or the like.

In the modification of the invention illustrated in Figure 3, the screw 21 is eliminated and the arm 19 is provided with a lateral extension 23 whose outermost end is curved upwardly and downwardly, as at 24, to terminate slightly above the surface of the arm 17 from which the lip 18 is omitted. This construction obtains the desired result but makes re-facing of the contacts and readjustment of the gap slightly more inconvenient.

From the foregoing description, taken in connection with the accompanying drawing, it will be readily apparent to those skilled in the art to which an invention of the character described appertains, that I provide a novel means of insuring continuity of circuit in a series street lighting socket which obviates the necessity of the usual film of insulating material and thus generally improves the construction of such sockets and reduces the cost of maintenance.

What I claim as my invention is:

1. In combination with a lamp socket for series street lighting systems having bayonet arms normally electrically bridged by a lamp secured in the socket and adapted to connect the socket and the lamp carried thereby with a source of electrical energy, a member formed of insulating material mounted between said arms and constantly preventing the direct passage of electricity therebetween, lateral arms extended from the socket, common means for attaching the bayonet arms and the lateral arms to the socket whereby the lateral arms have direct contact with the bayonet arms, and means at the ends of the lateral arms providing terminals of an air gap across which current jumps upon failure of the lamp to maintain the bayonet arms electrically connected.

2. In combination with a lamp socket for series street lighting systems having bayonet arms normally electrically bridged by a lamp secured in the socket and adapted to connect the socket and the lamp with a source of electrical energy, a member formed of insulating material mounted between said arms and constantly preventing the direct passage of electricity therebetween, lateral arms extended from the socket, common means for securing the lateral arms and the bayonet arms to the socket whereby the lateral arms are in direct contact with the bayonet arms, means carried by the ends of the lateral arms forming terminals of an air gap across which the current jumps upon failure of the lamp to maintain the bayonet arms electrically bridged, and means whereby said air gap may be readily adjusted.

3. The combination with a series street lighting fixture socket adapted to receive an electric lamp and including bayonet arms for conducting electrical energy to the lamp whereby the bayonet arms are normally electrically bridged by the lamp, a member formed of insulating material mounted between said arms and constantly preventing the direct passage of electricity therebetween, means extending laterally from the bayonet arms to one side of the socket and spaced from each other a slight distance to provide an air gap across which the current jumps upon failure of the lamp said means fusing as the current jumps the gap, to provide a metallic bridge across the gap to maintain

the bayonet arms electrically connected independent of the lamp, and means for readily breaking the fuse connection and readjusting the gap.

lateral arm mounted from the closed end wall of the socket with one end portion thereof in direct contact with the other bayonet arm and with its other end portion projecting beyond the side of the socket, and means carried by said second lateral arm and extending toward the terminal means of the first lateral arm but spaced therefrom a short distance to form a fuse gap across which current jumps to electrically connect the bayonet arms upon failure of the lamp.

In testimony whereof I have hereunto affixed my signature.

ALWIN G. STEINMAYER.

- 5 4. A socket of the character described comprising terminal members adapted to be normally bridged by an electric lamp, bayonet arms electrically connected with the terminal members for conducting electrical energy to the terminal members, a member formed of insulating material mounted between said arms for constantly preventing the direct passage of electricity therebetween, lateral arms secured to the bayonet arms with their outer ends extended to one side of the socket and spaced from each other to provide an air gap across which the current jumps to fuse said means and maintain the terminal members electrically bridged independent of the lamp, and means whereby the fused connection may be readily broken and the gap between said means readily re-adjusted, adjustment of the gap being facilitated by the extended position of the lateral arms. 70 75 80
- 15 5. The combination with a series street lighting fixture socket adapted to receive an electric lamp and including bayonet arms, a member formed of insulating material mounted between said arms for constantly preventing the direct passage of electricity therebetween, means electrically connected with the bayonet arms and forming an air gap across which the current jumps upon failure of the lamp to electrically bridge the bayonet arms, and common means for mounting the bayonet arms and said means forming the air gap from the socket. 85 90 95
- 20 6. In a device of the character described, a pair of terminal members, arms connected with the terminal members, one of said arms being formed of spring metal and having a portion thereof curled to provide a loop, and a screw threaded in said loop with its end adjacent to but spaced from the other arm to provide an air gap, the length of the gap being adjustable by turning of the screw, and the screw being maintained in any position of adjustment by the inherent resilience of the metal forming the loop in which it is threaded. 100 105 110
- 25 7. A device of the character described comprising, a cup shaped lamp socket adapted to mount an incandescent lamp, a pair of electrically insulated bayonet arms extending from the closed end wall of the cup shaped socket for engagement with a proper receptacle to support the socket and electrically connect the lamp carried thereby with a source of electrical energy, a first lateral arm having one end portion mounted from the closed end wall of the socket and in direct contact with one bayonet arm and its other end portion projecting beyond the side of the socket to provide a terminal, a second 115 120 125 130